



# SWARCER NEWS

July 2009

2009 ARRL FIELD DAY - JUNE 27-28

## Special Points of Interest

- Net nightly at 7:30 on the 147.195 repeater
- Tuesday night traders net at 8:00 PM on the 147.195 repeater
- Next meeting:  
August 3, 2009 at 7PM  
FV PresbyteriaChurch  
307 N Ennis Street  
Fuquay-Varina
- The August premeeting meal will be Pot Luck Dishes.

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SWARC's inaugural ARRL Field Day was a Huge Success!! We ran a 6A and made over 900 contacts. Paul, AA4XX, made the most contacts with over 300 logged and honorable mention goes to Chris, KG4WFD with a close 2<sup>nd</sup> at 276 contacts. A real loud round of applause goes to the follow members for all there help in setting up a station:

Gino, KI4YXO	10-20 SSB Station
Mark, NC4MP	20 meter PSK Station
Jeremy, KI4FYX	40-160 SSB Station
Steve, KA0GMY	CW Station
Paul, AA4XX	QRP Station
Jim, W4VCF	6 meter Station

Also special thanks go out to Mike, N3YEP, for setting up an awesome D-Star Demo. And to our Chefs, Gloria, KA0GMY/XYL & Tim, W4TAR, words can not describe how well we ate over the entire weekend. And last but absolutely not least, I'd like to say thank you to a man who worked very hard behind the scenes and was my right hand man, Dave Caudle, KJ4HNA.

Thank you all for coming out and supporting our 1<sup>st</sup> ARRL Field Day. Can't wait till next year!

Ryan Avery, NC4RA  
2009 Field Day Chairman

## PUBLIC SERVICE OPPORTUNITIES

Greetings;

Several new Public Service opportunities!

**July 18th** - Operation Red Sleigh. This is a fundraiser coordinated by the State Highway Patrol. Need Hams for rest stops and course monitors. Race starts at 8:00 am at Seagrove elementary school (about 15 miles south of Greensboro).

**Sept. 19th-20th** - 2009 Ride Without Limits. Just as last year, start & finish will be at Camp Kanata near Wake Forest. Will need about 15 Hams for SAG, Rest Stop, and Event Coordinator shadowing. Overnight accomodations in the Camper cabins available for all Hams, along with lot's o' food.

See our website at [www.hampublicservice.org](http://www.hampublicservice.org) for more details.

Looking forward to seeing everyone on an event soon!

And remember: Ham Radio **\*IS\*** Public Service.

--

Bill Cole KG4CXY  
Carolina Helping Hams  
[www.hampublicservice.org](http://www.hampublicservice.org)

## MINUTES OF THE MAY MEETING BY JENNIFER AVERY - KI4TFO

SWARC MINUTES - July 6, 2009

Meeting was called to order at 7:06PM

### TREASURER:

Don reported that we have \$964.20 as of today.

SECRETARY: Motion was made to enter the minutes as written in the SWARC Newsletter. Motion seconded and passed.

FIELD DAY: NC4RA reports that the SWARC First Summer Field Day was a huge success. We made around 900 check ins. Ryan would like to give a special thanks to W.E. Medlin for allowing us to use his farm. Special thanks to the operators:

Gino for 10-20 SSB Station  
Jeremy for 40-160 SSB Station  
Steve for CW Station  
Paul for the QRP Station  
Jim for the 6 Meter Station  
Mike for the D-Star demo

Also a big thanks to Tim and Gloria for cooking, to Dave Caudle for lots of the behind the scenes help.

The most contacts goes to Paul, AA4XX for making over 300 contacts and an honorable mention to Chris Caudle, KG4WFD for coming in a close second and making 276 contacts!

### NEW BUSINESS:

Selene mentioned that per the Constitution, a new budget is supposed to be presented at this meeting. Steve is sitting in for Tim at this meeting and he stated that he will talk to the Board Members but that we are just instated as of July 1<sup>st</sup>.

Board of Directors meeting – Selene also asked about the Board of Directors meetings and wondered if we had any this past year. Steve stated that the Board did meet and Selene said that the membership was not notified and she would have liked to have been.

W.E. Medlin – the membership discussed making a donation to W.E. Medlin for allowing us to use his farm for Field Day. Someone suggested we make a donation for books to be purchased for the boy scouts. Motion made to make a \$75 donation to the boy scouts seconded and passed.

### PUBLIC SERVICE DIRECTOR:

Jack is our Public Service Director – if you hear of any public events that the Club can be involved in, please let Jack know.

Jim Williams suggested that Jack take pictures of all of the members for the website.

Vests – we need to get the vests back from Thomas Babb. Jack will contact Thomas about the vests.

Phil AE4PC presented a Motion regarding the Constitution – here is the email he sent to Tim:

Tim,

I respectfully request that this email be sent to the membership to advise them of a motion for constitutional amendment I will propose at the July meeting for their consideration. This will be presented as a single motion for a single vote.

### Motion

To amend Article 5, Section 3 to add  
“, excepting that Board Members At Large will be elected in a single ballot with the two candidates receiving the most votes being selected for office,”  
between the words above and with.

To strike the words “at least” in Article 4, Section 1, and in Article 5, Section 1.

To strike the words “Directors At Large” in Article 4, Section 1 and insert the words “Board Members At Large” in place.

### Conclusion

If passed, the amendment would modify the relevant parts of the Constitution to read as follows:

### ARTICLE FOUR - Board of Directors:

1 - The Board of Directors will consist of the elected officers in Article Two (1) and 2 elected Board Members At Large not holding any other elected office in the club.

### ARTICLE FIVE – Elections:

1 – The elected positions shall consist of President, Vice President, Secretary, Treasurer, Membership Director, and 2 Board Members At Large.

## MINUTES OF THE MAY MEETING BY JENNIFER AVERY - KI4TFO (CONTINUED)

3 - Election will be conducted prior to the close of the June meeting by secret ballot in the sequence listed in section 1 above, excepting that Board Members At Large will be elected in a single ballot with the two candidates receiving the most votes being selected for office, with each election being preceded by the opportunity for additional nominations from the floor.

Respectfully submitted,  
Phil Cunningham, AE4PC

Phil said he would suspend his motion to be voted on at a later date to give entire membership a chance to review the proposed amendments.

Amendments – please give your ideas for amendments to Jim V4VCF for the newsletter so it can make the next newsletter.

Selene strongly urges the membership to bring with them to the next meeting the Constitution and the proposed amendments in written form to make it easier to review.

Reminders regarding memberships – if you did not pay dues – you are not a member as of July 1<sup>st</sup> – please get your dues in to NC4RA immediately!

Cary Swapfest – Selene wanted to give a reminder that this event is happening on July 18<sup>th</sup> at Ritter Park - turn by the Lutheran Church.

Gino suggested a potluck for the next meeting.

Jeremy won \$23.00 for the 50/50 raffle.

The Club had a presentation by W4VCF and the meeting adjourned at 8:23PM

## SOUTH WAKE ARC TREASURERS REPORT BY DONN HARRIS - NC4DH

Balances as of 07/06/09	\$ 964.20
Membership Dues	\$ 590.00
50/50	\$ 24.00
Expenditures	
Field Day Donation (For use of Field)	\$ - 75.00 Check Number 1131
Deposit	\$ 614.00
Balance as of 07/07/09	\$ 1503.20
Food for meeting meal 7/06/09	\$ 140.00 Paid in cash from meal collection
Respectfully Submitted: NC4DH	

## THE SUNSPOT NUMBER

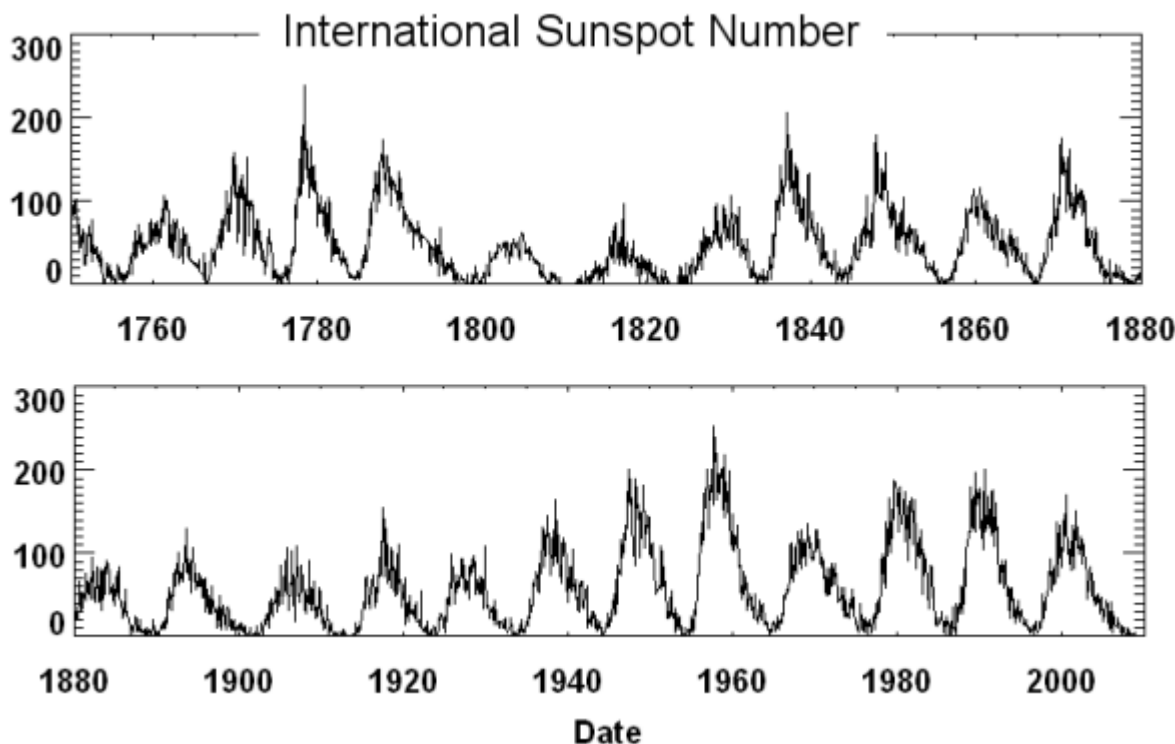
Scientists track solar cycles by counting sunspots -- cool planet-sized areas on the Sun where intense magnetic loops poke through the star's visible surface.

Counting sunspots is not as straightforward as it sounds. Suppose you looked at the Sun through a pair of (properly filtered) low power binoculars -- you might be able to see two or three large spots. An observer peering through a high-powered telescope might see 10 or 20. A powerful space-based observatory could see even more -- say, 50 to 100. Which is the correct sunspot number?

There are two official sunspot numbers in common use. The first, the daily "Boulder Sunspot Number," is computed by the NOAA Space Environment Center using a formula devised by Rudolph Wolf in 1848:

$$R = k(10g + s),$$

where  $R$  is the sunspot number;  $g$  is the number of sunspot groups on the solar disk;  $s$  is the total number of individual spots in all the groups; and  $k$  is a variable scaling factor (usually  $<1$ ) that accounts for observing conditions and the type of telescope (binoculars, space telescopes, etc.). Scientists combine data from lots of observatories -- each with its own  $k$  factor -- to arrive at a daily value.



The Boulder number (reported daily on SpaceWeather.com) is usually about 25% higher than the second official index, the "International Sunspot Number," published daily by the Solar Influences Data Center in Belgium. Both the Boulder and the International numbers are calculated from the same basic formula, but they incorporate data from different observatories. As a rule of thumb, if you divide either of the official sunspot numbers by 15, you'll get the approximate number of individual sunspots visible on the solar disk if you look at the Sun by projecting its image on a paper plate with a small telescope.

## CQ MAGAZINE HF OPERATORS SURVIVAL GUIDE

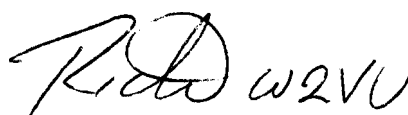
Dear Fellow Ham,

Welcome to HF, the Heart of Ham Radio! There's something special, something magical, about this little slice of the electromagnetic spectrum. Sure, you can talk long distances using satellite links or internet links, but they've never been able to replace the sense of accomplishment, the pure joy, the fun, of sending a radio signal out into the air and having it come back down a half a world away.

Traditionally, the greatest allure of the HF bands is "working DX," or talking to stations in faraway places. In addition, these bands give you plenty of opportunities for talking to other hams around our own country, and even to your local neighbors. But with ten bands to choose from, and conditions that vary with time of day, time of year and time of the sunspot cycle, getting started can be pretty intimidating.

Our goal with this guide is to help answer some of the most common questions about HF operating and to help you choose the best radio, antenna, and bands for making the contacts you want. For additional information, we encourage you to read *CQ* magazine every month, and to visit our website at <<http://www.cq-amateur-radio.com>>. But your best teachers are experience and your fellow hams. So get on the air, get involved with your local radio club, and most importantly— *have fun!*

73,



Rich Moseson, W2VU  
Editor, *CQ* Magazine

## ANTENNAS TO GET YOU GOING

By Joseph J. Carr, K4IPV

So you're new to HF ham radio? You can't wait to get on the air and are wondering what kind of antenna to put up. Let's take a quick look at some of your alternatives.

### Wire Antennas

Wire antennas are the simplest to put up, and are the choice of thousands of hams. Although many types of wire antennas exist, the random length wire and the dipole are the most widely used.

The random length antenna consists, appropriately, of a random length of wire and an antenna tuner. The advantages are that it will work on nearly all HF bands and is end fed; but the disadvantages are the need for a tuner and the fact that this type of antenna works best against a good ground (and that is sometimes hard to get).

The half-wavelength horizontal dipole (Fig. 1) is probably the most widely used ham radio antenna. It consists of a half wavelength of wire, fed in the center by 75-ohm coaxial cable 50-ohm cable will also work fine).

Dimension "A" in Fig. 1 is one quarter wavelength, while dimension "B" is one half-wavelength. The length of "B" is found by the formula:

$$B = \frac{468}{F(\text{MHz})}$$

where: Length "B" is in feet, and F(MHz) is the frequency of operation in megahertz.

The dipole is usable on the fundamental frequency (at which it is a half wavelength), and odd integer multiples thereafter (thus, a 40-meter dipole cut for 7 MHz also works on 15 meters, at 21 MHz). The pattern is a bi-directional figure-8 at the fundamental frequency, and various "clover leaves" at the higher frequencies.

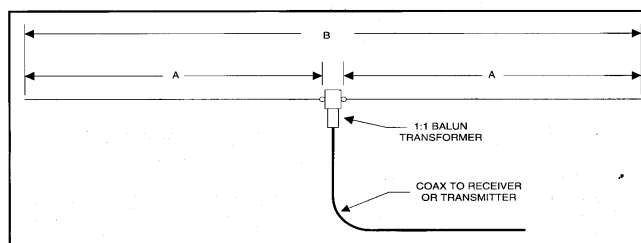


Fig. 1 - Half wavelength dipole. Dimension "A" is 1/4 wavelength and dimension "B" is 1/2 wavelength. Calculate B (in feet) by dividing 468 by the operating frequency in MHz.

## ANTENNAS TO GET YOU GOING

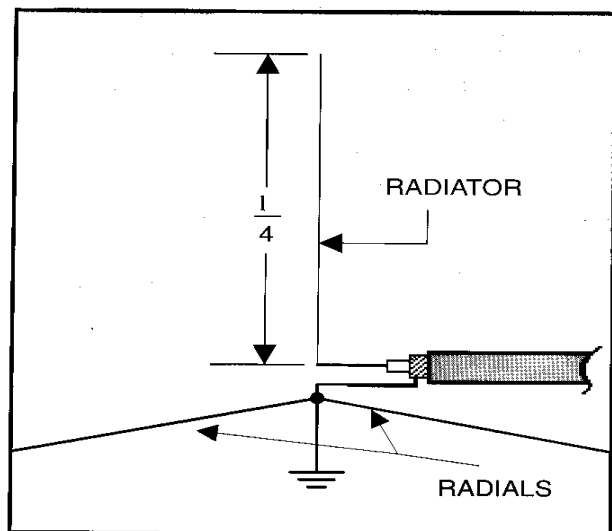
By Joseph J. Carr, K4IPV  
(Continued)

### Vertical Antennas

Vertical antennas can be one-quarter, one-half or five-eighths wavelength long (Fig. 2), although some impedance matching is needed for the latter two types. They have the smallest footprint of all the antennas if you discount the radial system.

The vertical antenna consists of two parts: radiator and radials. The radiator is the wire or pipe that stands up in the air. The radials are usually a quarter wavelength long and are connected to the ground or shield side of the 52-ohm coaxial cable.

To perform well, a quarter or 5/8-wavelength vertical antenna generally requires the system of radials to work properly (some half-wavelength verticals do not require radials). The radials can be buried in the ground or on the surface ... or above the surface if the vertical is so mounted. The important thing is that the radials be connected to the ground or shield side of the coax. In Fig. 2, the radials and shield side of the coax are also grounded to a ground rod.

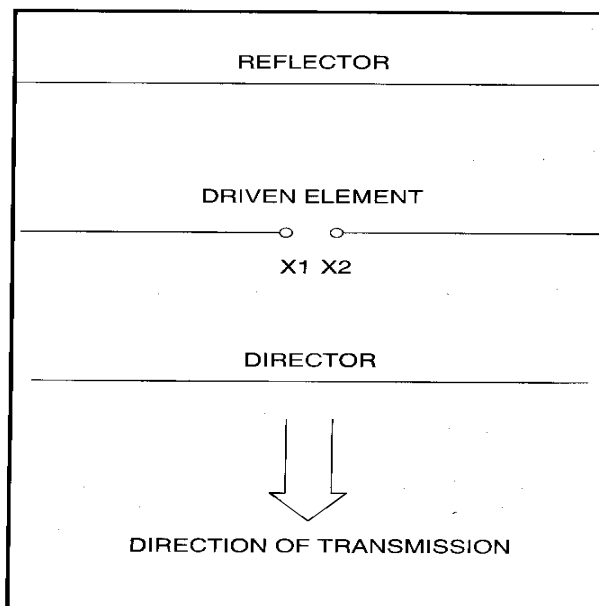


*Fig. 2 - Vertical antenna. Quarter-wave and 5/8-wave verticals require radial systems, while some half-wave verticals do not. Note that the shield of the coax is connected to the radials and to ground.*

### Beam Antennas

Beam antennas are useful because they direct most of the energy from your transmitter in one direction. The beam antenna shows gain over a dipole (or over an "isotropic" sphere) of several decibels. It gets this gain by rearranging the direction in which energy is sprayed. The gain works not only on transmit, but on receive as well. Thus, you get a "two-fer": increased signal strength in the direction of transmission and decreased interference from all other directions.

The *Yagi-Uda* style beam (Fig. 3 for top view) is easily identified as it consists of two or more elements (three is popular) in parallel planes, spaced about 0.1-0.25 wavelength apart. There are three types of beams in existence: small beams, full size beams and multi-band beams. Full-size beams are generally single band, and are a full half wavelength in size. They have the widest bandwidth of all beams. The small beams may be single or multi-band, but they are distinguished by their reduced size. They have generally narrower bandwidths than the other types. The multi-band beams (usually three to five bands) are the most popular. They are very nearly full sized.



*Fig. 3 - Yagi-Uda Beam Array. Your coax attaches to the driven element at points X1 and X2. The reflector is slightly longer, and the director is slightly shorter, than the driven element.*

## ANTENNAS TO GET YOU GOING

By Joseph J. Carr, K4IPV  
(Continued)

There is actually another type of beam antenna in use, and that is the cubical quad beam antenna. The cubical quad consists of two or more one wavelength square loops of wire in parallel planes, spaced 0.1-0.25 wave length apart. One of the elements will be driven, while the others are parasitic. The most common cubical quad antennas on HF use two elements, although three- to six-element quads have been built.

### Conclusion

This has been a quickie tour of the types of antennas that are available to you for HF operation. We hope that you select wisely, according to your own situation. Good DX.

## OLD FRIENDS BY JACK DONNELLY — WA2YBM

I often wondered what happened to our friends from perhaps the distant past. Do you? I have been here in N.C. for almost three years now, and have by the virtue of distance have not been able to keep in contact with many of them. I decided to take the bull by the horns, (via long distance phone calls) and make some calls.

First on my list was Herb Potter W2TDD in Elizabethtown. I had almost expected the phone to have been disconnected as he was considerable older than yours truly. It turned out OK. after all. Herb is 93 years old. At first he did not recognize either my name or call but after the mentioning of the radio museum in Knolton Canada the light bulb really lit up. I still have pictures of us there.

One of the outstanding moments was when I spotted a red jacket with the Schenectady Amateur Radio Association on it. It was being worn by Howard Lester W2ODC who is now a SK. I spoke to Herb and said watch the expression on Howard's face when he turns around and sees me. Remember now, that I am 250 miles from home. That expression was one of absolute disbelief. It actually took about 15 - 20 seconds to register who he was looking at. I'll never forget that expression.

Herb and I also spoke about other members of the MVARC radio club that was active in the Port Henry area at that time. The club has been disbanded do to the loss of mem-

bers. Around that time the ARRL was instrumental in getting the Northern New York Section founded separately from ENY as it was too big and far flung.

Tom Dick KF2GC was the cofounder and first STM of the section. He has since given up the position. I confirmed that via a phone call to him. He had a great Ham plate at that time - STMNNY - now that's vanity in capital letters.

Also the great time that was had by all at Les Schmarder farm in E-town for a field day exercise. You couldn't see more than a 100 feet for the mosquitoes were so thick. Even the smoking overnight campfire couldn't kept them away.

Herb and I had a truly good time that year. We also spoke of other Hams, most who are now SK's. There are 2 or 3 besides Herb and I that are still alive.

Fellow Hams. If you are getting along in age, why not try to reconnect with long past friends and just reminest about the good times that you had together. Believe me, any effort you put out will be well the effort. There is nothing like hooking up with long past friends.

I know. Been there, done that. nothing else like it.

Jack WA2YBM



## FIELD DAY PICTURES BY JACK DONNELLY - WA2YBM





## FIELD DAY PICTURES BY JACK DONNELLY — WA2YBM (CONTINUED)



## SOME ADVISE BY JACK DONNELLY — WA2YBM

A little know fact that I had forgotten from a long time back. While coming home from the fireworks at Wombel Park, I ran off a curb that I wasn't aware of. WHAM, CLUNK etc. The car immediately stopped. Would not re-start. Now what? With some help from others, we got the car off the road. I called the police and told them that I was leaving the car overnight and why. He said OK. I went to my mechanic the next morning bright and early. Told him what had happened. He gave me a disgusted look and only said, "Did you reset the fuel line cut off switch". Red faced, I said no because at that moment I knew what was wrong. I reset the switch and all went happily along after that.

I had been told a long time ago about that switch. For those not familiar with it, it is located in the trunk on the left side. There is also a sign attached to the wall describing what it is and how it is used.

If you are not acquainted with it, I suggest that you do so. That could save you a tow job and high a towing charge just for the tow truck driver taking you to a garage. Plus the garage charge just to push a button. I have heard of horror stories that have happened at garages that either did not know how to push a reset button.

Jack WA2YBM

## SKYWARN INFORMATION NETS & UPCOMING EVENTS

As posted on <http://www.centralcarolinaskywarn.net/>

Every Tuesday at 9:15PM on the 146.88 repeater



## CAROLINA HELPING HAMS

No events listed.

More details and sign-up information can be found on links from the Ham public service calendar at: [www.hampublicservice.org](http://www.hampublicservice.org)

## LINKS OF INTEREST



South Wake ARC Club website: <http://www.southwakearc.com/>

South Wake ARC Yahoo group: <http://groups.yahoo.com/group/southwakearc/>



Piedmont Coastal Repeater Network: <http://pcrn.net/>

Carolina 440 linked system: <http://www.carolina440.net/>



Central Carolina Skywarn: <http://www.centralcarolinaskywarn.net/>

SouthEastern Repeater Association: <http://www.sera.org/>



Wake County CERT: <http://www.wakecountycert.org/>

Wake County ARES/RACES: <http://www.wakeares.org/>



ARRL: <http://www.arrl.org/>

FCC Universal Licensing System: <http://wireless.fcc.gov/uls/index.htm?job=home>



Hamfest calendar: <http://k4hm.net/calendar.php>

NC Canine Emergency Response Team: <http://www.nccert.org/>



Capital Area Radio Testing Group: <http://www.cartgroup.org>

## UPCOMING HAMFESTS AND CONVENTIONS

### July 18: Mid-Summer Swapfest

Contact: Herb Lacey, W3HL

Phone: 919-467-9608

Email: [w3hl@arrl.net](mailto:w3hl@arrl.net)

Ritter Park

[301 West Lochmere Drive](#)

Cary, NC

### July 25: 34th Annual Western Carolina Hamfest

Western Carolina Amateur Radio Society

Contact: Dean Blair, K2JB

Phone: 828-423-3082

Email: [k2jb@arrl.net](mailto:k2jb@arrl.net)

Haywood County Fairgrounds

[758 Crabtree Road \(NC 209\)](#)

Waynesville, NC

### August 8: 11th Annual CFARS Swapfest

Cape Fear Amateur Radio Society

Contact: David Cowart, KR4OE

Phone: 910-624-1394

Email: [kr4oe@arrl.net](mailto:kr4oe@arrl.net)

Methodist University/Reeves Auditorium

[5400 Ramsey Street](#)

Fayetteville, NC 28311

## SOUTH WAKE AMATEUR RADIO CLUB

Address	Officers			
PO Box 1565 Fuquay-Varina, NC 27526	President:	Tim Ruffin	W4TAR	<a href="mailto:timruffin@earthlink.net">timruffin@earthlink.net</a>
	Vice President:	Tommy Williams	KI4VSO	<a href="mailto:ki4vso@gmail.com">ki4vso@gmail.com</a>
	Secretary:	Jennifer Avery	KI4TFO	<a href="mailto:jennavery@charter.net">jennavery@charter.net</a>
	Treasurer:	Donn Harris	NC4DH	<a href="mailto:nc4dh@embarqmail.com">nc4dh@embarqmail.com</a>
	Membership Director:	Dale Whitlock	AI4WF	<a href="mailto:ai4wf@nc.rr.com">ai4wf@nc.rr.com</a>
	Director of Large:	Steve Mowels	KA0GMY	<a href="mailto:ka0gmy@bellsouth.net">ka0gmy@bellsouth.net</a>

## Public Service Through Amateur Radio

South Wake ARC's primary purpose is to further the Amateur Radio Service through programs, activities, and education, in order to promote the radio knowledge, fraternalism and individual operating efficiency of our members. Further, it shall be our purpose to support the welfare of our community through public service including radio communications for emergency situations and public events, and through providing information, training, and assistance to individuals or organizations with an interest in the Amateur Radio Service.

## TRIANGLE EAST AMATEUR RADIO ASSOCIATION 2009 VE SESSION SCHEDULE AND INFORMATION!

The Triangle East Amateur Radio Association (TEARA) is pleased to announce its 2009 schedule for amateur radio examinations. Exams are given the third Saturday of every month except July and December at 9:30 a.m. at the Red Cross office in Smithfield, North Carolina. The Red Cross is located at 801 South Third Street in downtown Smithfield. Additional directions are and a map link are given below.

For 2009, the dates are:

\*\*\* No session in July  
August 15  
September 19  
October 17  
November 21  
\*\*\* No session in December

For more information go to: <http://teara-ve.ka4puv.com/>

## CAPITAL AREA RADIO TESTING GROUP

Capital Area Radio Testing Group

For dates and locations, go to:

Clayton Area EMS  
317 South Robertson Street  
Clayton, NC 27520

<http://www.cartgroup.org>